

## **The influence of motivational messages on future planning behaviors among HIV concordant positive and discordant couples in Lusaka, Zambia.**

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Stephenson R, E Mendenhall, L Muzizi, B Vwalika, E Chomba, Y Ahmed, [J Telfair](#), et al. 2008. "The influence of motivational messages on future planning behaviors among HIV concordant positive and discordant couples in Lusaka, Zambia". *AIDS Care*. 20 (2): 150-60.

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### **Abstract:**

In Zambia the HIV/AIDS epidemic has resulted in many single female-headed households. Strong patriarchal laws and customs prevent widows and children from maintaining economic assets. This study examines the impact of a video-based motivational intervention promoting future planning in 1,504 HIV-infected couples in Lusaka, Zambia. Following a group video session, couples randomized to the motivational arm could choose to write a will, identify a guardian for their children and make financial plans. Desirable behaviours modelled in the motivational video were measured at quarterly intervals for a year and compared in intervention and control arms. Demographic measures including age, income and educational status were not associated with planning behaviours. Participation in the intervention was associated with will writing (23% versus 5%) and naming a guardian (32% versus 17%) but not with other planning behaviours. The study demonstrates the ability of motivational messages integrated into HIV VCT to encourage future planning behaviour and points to the need to expand existing HIV and VCT services to meet other non-health needs of those living with HIV.

**Keywords:** AIDS | HIV | Zambia | Zambian culture | patriarchal customs | future planning

### **Article:**

#### **Introduction**

Current estimates put Zambia's national HIV prevalence at 17% (15–18%); however, this hides wide urban-rural differentials, with an urban HIV prevalence of 23% (Central Statistical Office, 2003; UNAIDS, 2006). HIV testing of pregnant women in urban areas found that between 23% and 31% were HIV positive (UNAIDS/WHO, 2004). In 2005, an estimated 98,000 Zambians died from AIDS, with the majority of these deaths occurring in men and women of reproductive age (15–49 years) (UNAIDS, 2006). Zambians also face high levels of poverty, with 73% of the population classified as living in poverty (United Nations Development Programme, 2003). Families are disproportionately affected by the HIV/AIDS epidemic, with approximately 60% of

HIV infections occurring within married couples (McKenna et al., 1997). High levels of AIDS-related mortality have impacted family structure and stability. Over 710,000 children have been orphaned by one or both parents due to HIV/AIDS and life expectancy has dropped significantly to a current level of around 40 years (UNAIDS, 2006). In an environment of high poverty, resultant single-headed households struggle to provide for their families. Widows and children suffer economically after the death of a spouse due to the lack of power that women hold to control and maintain their assets in the event of a spousal death (Nampanya-Serpell, 2000).

This paper examines the influence of exposure to motivational messages on future planning behaviours that include will writing, appointing a guardian for children and financial planning among concordant positive and discordant married couples in Lusaka, Zambia. An understanding of the factors associated with planning behaviours has the potential to inform programmes that provide life support to those currently living with HIV and to tailor life skills and planning programmes to the specific needs of such individuals.

## Background

Widowhood in much of sub-Saharan Africa is often characterized by women's lack of power or authority to protect their assets or choose their marriage status once their partner dies (Luginaah et al., 2005; Potash, 1986). If the male dies, the next highest ranking male often becomes the inheritor and husband to the recent widow—leaving women in a vulnerable position lacking ownership and power over her assets and family (Kalabamu, 2005). If the woman does not marry immediately after the death of her spouse, then her goods are often distributed among other family members and the widow is usually excluded from this process (Potash, 1986). Women living in urban settings, where social networks are often weaker, are often stripped of all their belongings by extended paternal family members and left without social or economic support from these family members (Richardson, 2004).

Haworth et al. (1991) survey of AIDS-affected families in Zambia found that the shift from relative wealth to poverty was most visible in families in which the deceased father was both breadwinner and tenant of a house provided through his work. Many families are forced to leave their residence after the death of the father (Nampanya-Serpell, 2000). The transition into poverty that many widow-headed households face affects future opportunities for their children, resulting in discontinuity of school enrolment, demands for participation in home care by children and reluctance of substitute caregivers to invest in the children's schooling (Nampanya-Serpell, 2000). In Zambia, one-third of caretakers stated that they agreed to take care of orphans because no one else would (McKerrow, 1997) and a high prevalence of households containing orphans is found in poorer localities with high rates of female-headed households (Foster & Williamson, 2000). Despite the high prevalence of HIV and orphanhood, few opportunities exist for Zambians to write wills that allow the distribution of their assets to family members. A recent study of the wills written by HIV-infected couples in Lusaka found that couples who write wills are concerned about property grabbing, land ownership and providing for their children

(Mendenhall et al., 2007). A study with adults receiving home care in Zambia found that most had not discussed what would happen in the future with their children after their death (Foster & Williamson, 2000). Zambian statutory law provides that the assets of a man who dies without a will are divided 50% to the wife and children, 20% to his parents, 20% to his siblings and the remaining 10% to other dependents (Judai & Associates, 2002). However, under customary law, women are often treated as minors and are prohibited from owning property. In the event of a man's death, the deceased husband's family members often seize property assumed to have belonged to the deceased (known as 'property grabbing') (Richardson, 2004).

This study is a unique examination of future planning behaviours among those affected by HIV in an African country; we have found no previous literature in this area. In fact, literature on future planning behaviour among HIV-positive individuals is lacking for any cultural or geographical context. In a study of the adaptive tasks adopted by seropositive gay men in the US, Siegel and Krauss (1991) detailed the coping mechanisms used to deal with stigma and developing strategies used for maintaining physical and emotional health. Armistead and Forehand (1995) examined the parenting decisions made by seropositive mothers in the US, and discuss future planning behaviour in terms of making childcare arrangements for their children. Conversely, literature exists on the unmet needs of people with HIV for social welfare services, which includes economic planning (Piette et al., 1993). Previous literature on future planning behaviour among seropositive individuals is thus rare, although the need for such information has been identified. This paper seeks to understand the characteristics of those couples who choose to write wills and undertake future planning behaviours among a cohort of discordant and concordant HIV-positive couples in Zambia, new information that is imperative to our understanding of the potential for motivational interventions to promote future planning behaviours.

## Methods

### The Zambia-Emory HIV Research Project

The Zambia-Emory HIV Research Project (ZEHRP) implemented a randomized control trial (RCT) to examine the impact of a video-based motivational intervention on future planning behaviours among concordant and discordant HIV-positive couples in Lusaka, Zambia, in 2002. This video-based intervention addressed future planning issues faced by couples living in a high HIV prevalence setting and provided information on family planning methods. The videos also provided information aimed at motivating couples to think about the future economic security of their family, including information on the need for will writing and future planning activities (including appointing a guardian generating new income and saving money to pay for education). Participants were also given the opportunity to meet with an advisor who could help them arrange future planning activities.

### Data and analysis

Enrolment and randomization for the Family Planning RCT began in July 2002 and ended in July 2005. After enrolment, 1,504 couples were randomized in whom one or both partners were HIV-positive, had no evidence of infertility, had no medical contra-indicators to contraception and were within the age inclusion criteria (18–45 for women, 18–65 for men). Randomization was by day rather than by couple because interventions involved educational videos delivered in a group setting. Days were randomized in advance with the use of a random number table; therefore, each individual day of the study had an equal chance of being randomized to any given arm. Assignment was concealed from staff involved in data collection and patient care until enrolling couples had signed the informed consent document. Couples were randomized into four arms, two of which received motivational messages for future planning (Table I):

- Intervention Group I: (Methods Group): Couples in this group watched a video that provided information on family planning methods.
- Intervention Group II: (Motivational Group): Couples in this group watched a video that included information about Zambian inheritance law and will preparation, and illustrated a model family choosing to write a will, name a guardian and make financial plans for their children
- Intervention Group III: (Both Group): Couples in this group watch both the ‘Methods’ and ‘Motivational’ videos.
- Control Group: Couples in this group watched a video that contained issues unrelated to family planning and future planning including hand-washing, hygiene and nutrition.

Each group watched videos followed by group discussions led by a trained counsellor. The videos each lasted for approximately 45 minutes and contained local actors delivering information and acting out relevant scenarios in appropriate local languages. Additionally, couples in the motivational or both groups were offered the opportunity to make an appointment with an advisor who could help them with future planning activities. Table I details the number of couples in each randomization arm, along with HIV-prevalence and retention rates. Each of the four arms (control, methods, motivational, both methods and motivation) included 366–393 couples with 65–70% having two HIV-positive partners. Retention rates were 80–88% and did not differ significantly between arms.

Table I. Participation in randomized control trial by arm and sero-status.

Randomization arm	Randomized n	Follow-up n	Returned for follow- up (%)	Sero-status concordant positive (%)
Control	376	308	82	66
Methods	369	325	88	65
Motivational	393	313	80	69
Both	366	304	83	70

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Participants in the RCT returned to the study site at quarterly intervals after randomization. At these visits they were interviewed by trained study staff, who recorded information on their family planning and future planning behaviour. The interviews were conducted in the appropriate local language. At enrolment (prior to the intervention) and at quarterly visits through 12 months after the intervention, participants were asked about the future planning activities they had undertaken. All participants, regardless of the arm of the study they were randomized to, were asked if they undertaken any of six future planning activities: written a will; identified a guardian; invested in buying a plot of land or home; participated in income generating opportunities; saved money to send children to school; or re-allocated current household income towards children's education (Table II). The analysis considers each of these activities as an outcome. Additionally, the analysis considers whether couples randomized to the motivational arms consulted a financial advisor as an outcome. Table II shows the prevalence of each of the outcomes, with future planning activities ranging from 12% (will writing) to 23% (redirecting money from alcohol to schooling). In order to assess the impact of the intervention on future planning behaviours the frequencies of each of the future planning behaviours across the couple's sociodemographic characteristics and the arm of the RCT to which they were exposed were calculated. Additionally, sociodemographic characteristics of couples were compared across the four arms to ensure that randomization had resulted in comparable groups.

**Results****Conclusion**

Table III shows the distribution of key socioeconomic and demographic factors by randomization arm: the p-values show no significant differences in background characteristics between couples in each arm of the RCT, indicating a truly randomized sample. The average household uses a public tap (81%), uses something other than a flush toilet (94%), rents a home (71%) and does not have electricity in their home (72%). Over half of women are unemployed (54%), compared to over half of men who maintain employment throughout the year (53%). The majority of women make less than one dollar a day (Kw5000). More men than women report the ability to read Nyanja (a common local language) easily. Less than 10% of couples were interested in having more children in the next year. While few women reported drinking alcohol, 40% of men reported drinking alcohol weekly.

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Table IV shows the distribution of background characteristics among couples who chose to undertake will writing, appointed a guardian or consulted with a financial advisor, for those

couples who were randomized to the Motivational and Both arms. A comparison with Table III shows that the distribution of background characteristics is remarkably similar among those who chose to undertake these activities and the general study population. Figure 1 shows the prevalence of consulting an advisor, writing a will and naming a guardian across the four study arms, and a clear pattern emerges of significantly higher levels of these future planning activities among couples randomized to the Motivation or Both arms. Couples in the Control or Methods arms were not given the opportunity to consult an advisor, yet they were able to independently write a will or name a guardian.

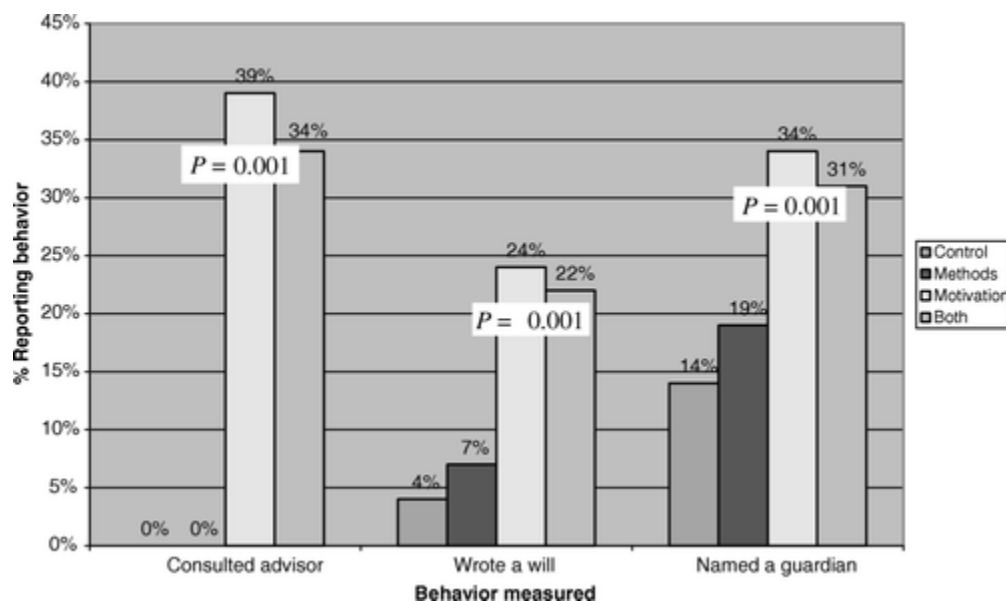


Figure 1. Planning behaviors by randomization arms.

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Among couples in the Motivational arm, 39% chose to see an advisor, while among couples in the Both arm, 34% chose to see an advisor. Overall, 14% of couples wrote a will: 4% of couples in the Control arm; 7% of couples in the Methods arm; 22% of couples in the Both arm; and 24% of couples in the Motivational arm. Almost one quarter (24%) of couples chose to identify a guardian for their children: 14% of couples in the Control arm; 19% in the Methods arm; 31% in Both arm; and 34% in the Motivational arm. However, the pattern of planning behaviours across the four randomization arms was not consistent for all outcomes: deciding to invest money in a house or plot of land, saving money for their children's schooling or undertaking new income generation did not vary significantly across the four arms (Figure 2). More than one-third of all couples reported re-allocating money in some way to their children's schooling and approximately 45% of all couples reported spending less on alcohol in order to support their children's schooling. Couples in the Control arm reported the lowest frequency of reallocating monies (31%;  $n=118$ ) and to directing new income (34%) toward their children's schooling.

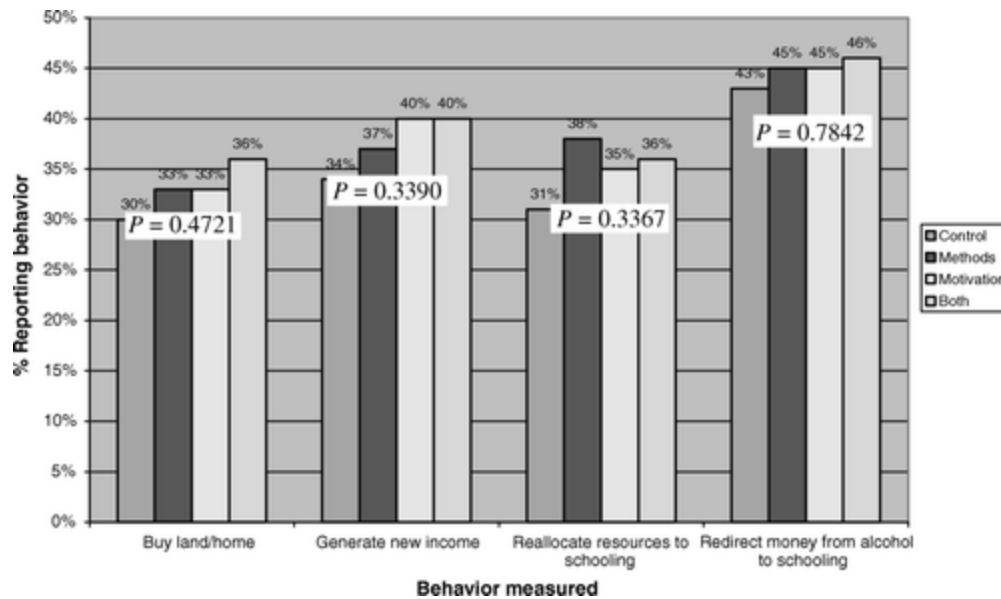


Figure 2. Planning behaviors by randomization arms.

The couples in the study were primarily HIV concordant positive (68%); 15% were HIV discordant with the male positive, while 17% were HIV discordant with the female positive. Table IV shows the distribution of future planning activities by couple sero-status within randomization arm. There are no significant variations in the undertaking of future planning activities by couple sero-status with the same patterns of decision-making seen across the four arms of the RCT were observed in each of the sero-status groups.

## Discussion

This randomized control trial provides evidence to suggest that some planning actions can be influenced by a video-based ‘motivational’ intervention modelling desirable outcomes, coupled with access to an advisor. The intervention was successful in promoting will writing and guardian naming, with two to three times more couples exposed to the motivational messages choosing to undertake these activities compared with couples who were exposed to the family planning or control videos. Planning behaviours did not vary across demographic characteristics nor across sero-status. The fact that there were no apparent socioeconomic or demographic differences between couples who undertook these activities and those who did not suggests that there exists a latent demand for these services among the population that transcends all social and economic groups. The presence of some level of will writing and guardian naming among couples not exposed to the motivational messages indicates that the demand exists, but exposure to the motivational messages acted as both a catalyst for precipitating interest in these activities and as a mechanism for allowing couples to take action to plan for the future. The lack of socioeconomic and demographic variation in these future planning activities also indicates that it

is possible to motivate couples from all backgrounds to undertake future planning activities, suggesting the potential to roll out the messages used in the intervention in a mass media campaign.

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In this setting of high levels of both poverty and HIV, the motivational intervention appears to have had little impact on couples' attempts to buy land or a home, generate new income, re-allocate resources to children's education or redirect money away from alcohol to schooling. This is not to say that these activities were not undertaken; in fact over 30% of couples in all four study arms reported undertaking each of these actions, suggesting a tangible concern among the study participants for their children's futures and worry about discontinuity of schooling once a parent falls ill to AIDS (Nampanya-Serpell, 2000). These planning behaviours, which are largely financial, can be undertaken by couples without aide from a trained counsellor. In contrast, will writing or the naming of a guardian requires assistance from someone versed in the technicalities of these activities. Thus, the intervention may have been more successful in promoting will writing and guardian naming as it provided a resource, through access to a trained advisor, to someone who could assist the couples with undertaking these activities. Demand for the other financial activities appears to exist across all couples, and couples appear to be undertaking these activities independently. With the exception of the re-allocation of resources to schooling, the frequencies of the financial activities are marginally higher in the Both, Motivational and Methods groups, suggesting that exposure to any type of motivational messages that addresses the realities faced by couples living with HIV is instrumental in precipitating future planning behaviour.

This main potential limitation of this study lies in the self-selection of study participants. The sample of couples participating in the study is not representative of the general population of Lusaka; those individuals participating in the study were motivated to attend the ZEHRP clinic for HIV testing as a couple. Thus the sample contains couples who were already motivated to seek information on their health status, and it may be argued that such couples may have a greater propensity for undertaking future planning activities. Services for future planning activities are very limited in Lusaka and thus the opportunity to examine future planning behaviours does not currently exist in the general urban population. However, the results of the study clearly show that even among a relatively select clinic-based population, there are clear differences in the future planning behaviours between those exposed to video interventions with differing contents. Hence, although the study population may be more motivated to seek care than the general population, the motivational messages contained in the videos act as the main catalyst that precipitates changes in their behaviour.

Conclusion



The study shows that HIV concordant positive and discordant couples, regardless of socioeconomic or demographic background, can be motivated to plan for their future if they have access to counselling services and information on possible planning behaviours. The economic impact of HIV on families can be great, and the results point to the demand for future planning services to the integrated HIV prevention and treatment activities. By providing the opportunity for future planning to couples who visit centers providing couples voluntary counselling and testing (CVCT), couples will have the opportunity to plan for their family's future and can protect the economic assets of HIV widows and their children. The results also indicate a real demand for planning services among those living with HIV, suggesting the potential to expand the motivational messages used in the present intervention to the general population; however, this would require the large-scale provision of future planning services to allow couples to turn their future planning motivation into action.

### Acknowledgements

This study has been funded in whole or in part with federal funds from the US National Institutes of Health, under grants RO1 HD 40125, RO1 MH 66767, RO1 AI 40951, U2 GPS 000758, the Fogarty AIDS International Training and Research Program (AITRP) FIC 2D43 TW001042, the Social & Behavioral Core of the Emory Center for AIDS Research (CFAR) P30 AI050409, and the International AIDS Vaccine Initiative (IAVI). Appreciated Appreciated is expressed to the staff and study participants of the Zambia-Emory HIV Research Project.

### References

1. Armistead, L. and Forehand, R. 1995. For whom the bell tolls: Parenting decisions and challenges faced by mothers who are HIV-positive. *Clinical Psychology: Science and Practice*, 2: 239–250.
2. Central Statistical Office (Zambia), Central Board of Health (Zambia) & ORC Macro (2003) . Zambia Demographic and Health Survey 2001–2002 . Calverton, Maryland : Central Statistical Office, Central Board of Health & ORC Macro .
3. Foster, G. and Williamson, J. 2000. A review of current literature of the impact of HIV/AIDS on children in sub-Saharan Africa. *AIDS*, 14(Suppl. 3): S275–S284.
4. Haworth , A. , Kalumba , A. , Kwapa , P. , Van Praag E. , and Hamavhwa , C. (1991) . The Impact of HIV/AIDS in Zambia: General Socio-Economic Impact . Paper Presented to the VIIth International Conference on AIDs, Florence .
5. Judai & Associates (2002) . Women entrepreneurs in Zambia: Jobs and small enterprises in Africa. Preliminary report prepared for Gender in Development Division, Office of the President (Zambia), ILO Office (Lusaka) and Small Enterprise Development . Available at:

<http://www.ilo.org/dyn/empent/docs/F784822089/ILO%20WED%20study%20ZAMBIA-Oct%2002.pdf>

6. Kalabamu , F. (2005) . Women's inclusion and exclusion from property ownership in Botswana . Paper presented for Promoting social inclusion in urban areas: Policies and practice, 6th N-Aerus Conference, Housing Development & Management, Lund Institute of Technology, Lund University , Sweden .
7. Luginaah, I., Elkins, D., Maticka-Tyndale, E., Landry, T. and Mathui, M. 2005. Challenges of a pandemic: HIV/AIDS-related problems affecting Kenyan widows. *Social Science and Medicine*, 60: 1219–1228.
8. McKenna, S.L., Muyinda, G.K., Roth, D., Mwali, M., Ng'andu, N. Myrick, A. 1997. Rapid HIV testing and counseling for voluntary testing centers in Africa. *AIDS*, 11(Suppl. 1): S103–S110.
9. McKerrow , N. (1997) . Responses to orphaned children: A review of the current situation in the Copperbelt and Southern Provinces of Zambia . UNICEF Lusaka, Research Brief No. 3, December 1997 .
10. Mendenhall, E., Muzizi, L., Stephenson, R., Chomba, E., Ahmed, Y. Haworth, A. 2007. Property grabbing and will writing in Lusaka, Zambia: An examination of wills of HIV-infected cohabiting couples. *AIDS Care*, 19(3): 369–374.
11. Nampanya-Serpell , N. (2000) . Social and Economic Risk Factors for HIV/AIDS-Affected Families in Zambia . Paper presented at the AIDS and Economics Symposium , Durban July 7–8, 2000. Organized by the IAEN Network .
12. Piette, J.D., Fleishman, J.A., Stein, M.D., Mor, V. and Mayer, K. 1993. Perceived needs and unmet needs for formal services among people with HIV disease. *Journal of Community Health*, 18: 11–23.
13. Potash, B. 1986. “Widows in Africa: An introduction”. In *Widows in African Societies*, Edited by: Potash, B. 1–43. Stanford: Stanford University Press.
14. Richardson , A.M. (2004) . Women's inheritance rights in Africa: The need to integrate cultural understanding and legal reform: Human rights brief . Center for Human Rights and Humanitarian Law, American University Washington College of Law, 11, Winter. Available at: <http://www.wcl.american.edu/hrbrief/hrbrief112.pdf?rd=1>
15. Siegel, K. and Krauss, B.J. 1991. Living with HIV infection: Adaptive tasks of seropositive gay men. *Journal of Health and Social Behaviour*, 32: 17–32.

16. UNAIDS (2006) . Report on the global AIDS epidemic: A UNAIDS 10th anniversary special edition . Geneva, , Switzerland : Joint United Nations Programme on HIV/AIDS . Available at: [http://www.unaids.org/en/HIV\\_data/2006GlobalReport](http://www.unaids.org/en/HIV_data/2006GlobalReport)
17. UNAIDS/WHO (2004) . Epidemiological fact sheets on HIV/AIDS and sexually transmitted infections: Zambia; 2004 Update . Geneva, Switzerland: Joint United Nations Programme on HIV/AIDS . Available at: [http://data.unaids.org/Publications/Fact-Sheets01/zambia\\_EN.pdf](http://data.unaids.org/Publications/Fact-Sheets01/zambia_EN.pdf)
18. United Nations Development Programme (2003) . Zambia human development report 2003. Eradication of extreme poverty and hunger in Zambia: Enhancing the achievement of the Millennium Development Goals . Lusaka, , Zambia : United Nations Development Programme . Available at: <http://www.undp.org.zm/undptest/docs/UNDP%20NHDR%20Report.pdf>